

## Testimony of Alan Leviton

### A. Own publications on the topic:

Leviton A. Caffeine consumption and the risk of reproductive hazards. J Reprod Med. 1988;33:175-8.

Leviton A. Does coffee consumption increase the risk of reproductive adversities? J Am Med Women's Assoc 1995;50:20-2.

Leviton A, Cowan L. A review of the literature relating caffeine consumption by women to their risk of reproductive hazards. Food Chem Toxicol 2002;40:1271-310.

### B. "outcomes" of interest

Birth defects (congenital malformations)

Spontaneous abortion (miscarriage)

Prematurity

Reduced birth weight

Intra-Uterine Growth Restriction (IUGR)

Small for Gestational Age (SGA)

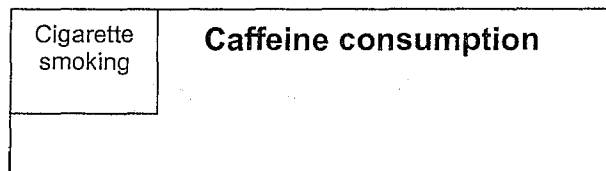
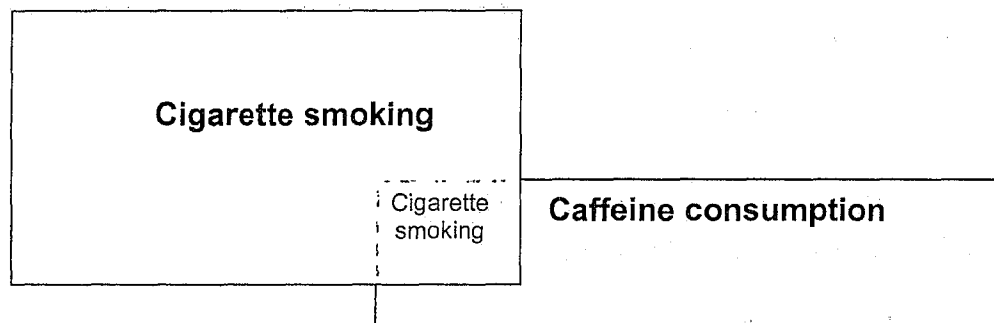
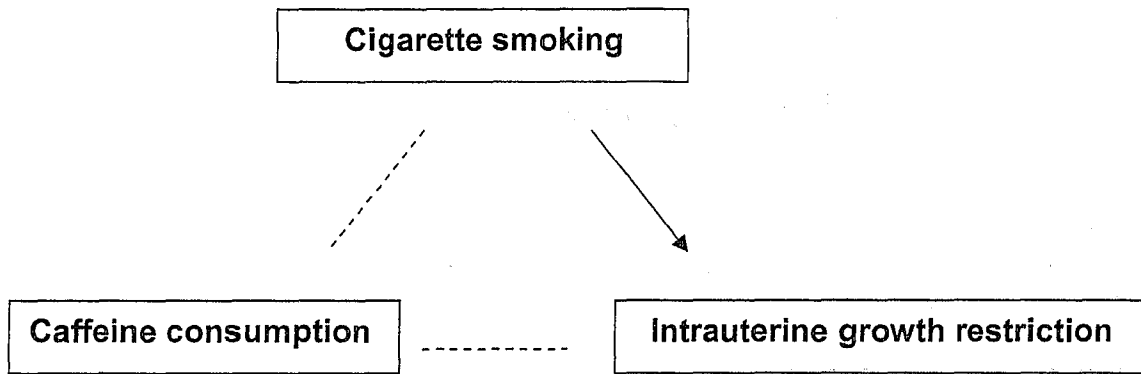
### C. issues

Residual confounding

Leviton A. Coffee consumption and residual confounding. Epidemiology 1996;7:110-11.

Pregnancy signal

Lawson CC, LeMasters GK, Wilson KA. Changes in caffeine consumption as a signal of pregnancy. Reprod Toxicol 2004;18:625-33.

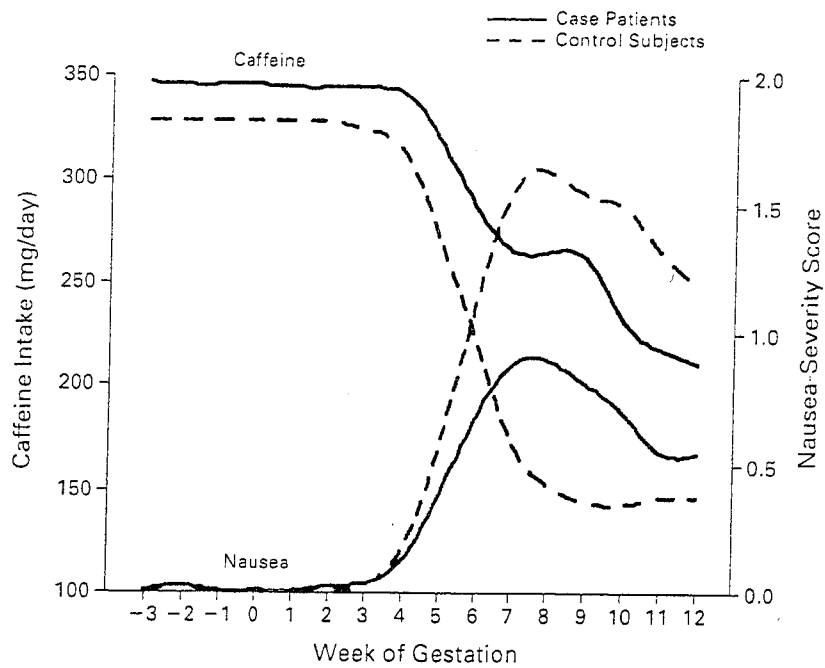


“the OR for SGA associated with ... caffeine consumption was significantly different between smokers and non-smokers” [Infante-Rivard, 2007].

Infante-Rivard C. Caffeine intake and small-for-gestational-age birth: modifying effects of xenobiotic-metabolising genes and smoking. *Paediatric and Perinatal Epidemiology* 2007;21:300–309.

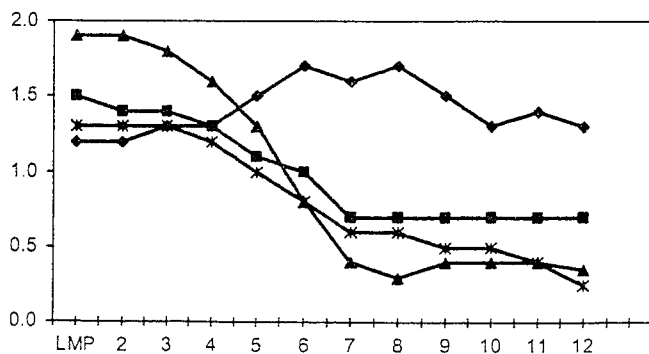
“Among non-smoking women with high caffeine intake, there was an increased risk of repeated miscarriage, whereas there was no such association among smokers.”

George L, Granath F, Johansson AL, Olander B, Chattingius S. Risks of repeated miscarriage. *Paediatr Perinat Epidemiol.* 2006;20:119-26.

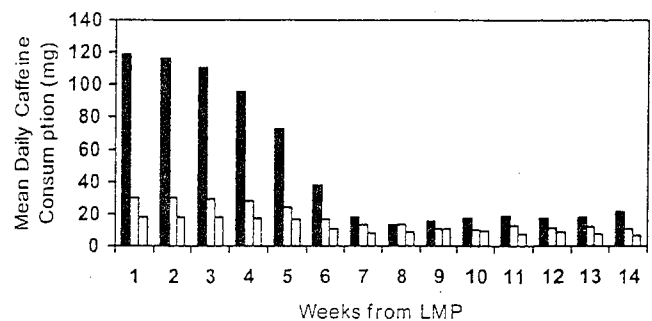


**Figure 1.** Mean Intake of Caffeine and Mean Severity of Nausea According to the Week of Gestation. Week 0 was the week of the last menstrual period. The case patients were women who had spontaneous abortion at 6 to 12 weeks of gestation. The control subjects did not have spontaneous abortion.

Cnattingius S, Signorello LB, Annerén G, Clausson B, Ekbom A, Ljunger E, Blot WJ, McLaughlin JK, Petersson G, Rane A, Granath F. Caffeine intake and the risk of first-trimester spontaneous abortion. *N Engl J Med* 2000;343:1839-45.



**Fig. 1.** Mean daily servings of coffee, tea, soft drinks, and milk. (■) Soft drinks (12 oz); (▲) coffee (8 oz); (◆) milk (8 oz); (\*) tea (8 oz); y-axis label: mean daily servings at each week; x-axis label: weeks from LMP.



**Fig. 2.** Mean daily caffeine intake from coffee, tea, and soft drinks. (■) Coffee; (□) soft drinks; (▒) tea; y-axis label: mean daily caffeine consumption (mg); x-axis label: weeks from LMP.

Lawson CC, LeMasters GK, Wilson KA. Changes in caffeine consumption as a signal of pregnancy. *Reprod Toxicol* 2004;18:625-33.